IN THE CLAIMS

Please amend the claims as follows:

1. (Original) A machine-vision system having an optical axis, comprising:

a light source emitting light having a polarization;

a machine-vision imager that obtains an image of an object illuminated by the light;

a processor coupled to receive an image from the imager, and operative to generate a quality parameter based on the image; and

means for selectively directing the light in a predetermined pattern based on its polarization and based on the quality parameter of the image.

2. (Original) The system of claim 1, wherein the means for selectively directing the light include a liquid-crystal device.

3. (Original) The system of claim 1, wherein the means for selectively directing the light further include a polarized reflector.

4. (Original) A machine-vision system having an optical axis, comprising:

a machine-vision imager located along the optical axis;

a controllable light source;

a first optical element that selectively directs light in a first predetermined pattern relative to the optical axis based on light characteristics;

a second optical element that directs light in a second predetermined pattern relative to the optical axis; and

an electronic controller operatively coupled to the imager and the controllable light source to control the light characteristics and thereby selecting one or more of the first and second predetermined patterns.

5. (Original) The system of claim 4, wherein the controllable light source comprises:

a light source;

a controllable polarizer for setting a polarity of the light, wherein the electronic controller is operatively coupled to the controllable polarizer to control the light polarization characteristics and thereby selecting one or more of the first and second predetermined patterns.

6. (Original) The system of claim 5, wherein the first optical element includes a polarized reflector that reflects light polarized on one direction and transmits light polarized in another direction.

7. (Original) The system of claim 4, wherein the controllable light source comprises:

a light source;

a liquid crystal device (LCD) having two or more areas that are each controllable to selectively transmit light.

8. (Original) The system of claim 7, wherein the first optical element includes a prism refractor that refracts light in the first pattern when a first one of the two or more LCD areas transmits light.

9. (Original) The system of claim 8, wherein the second optical element includes a prism refractor that refracts light in the second pattern when a second one of the two or more LCD areas transmits light.

10.(Original) The system of claim 4, wherein the controllable light source comprises:

a light source having two or more banks each having one or more LEDs and each operatively coupled to be activated by the electronic controller, wherein one or more of the banks can be simultaneously activated.

11. (Original) The system of claim 10, wherein

the first optical element is a ring reflector situated to reflect only light from a first one of the banks; and

the second optical element is a ring reflector situated to reflect only light from a second one of the banks

12. (Original) The system of claim 10, wherein the electronic controller further selects a region of interest of an image, determines an image quality within the region of interest, and selectively controls the first and second light pattern based on the image quality.

13. (Original) The system of claim 4, further comprising:

a support station that supports an object being inspected by the machine vision system; and

a selector that rejects that object based on an analysis of the image.

14-23 (cancelled).

24. (New) The system of claim 1, wherein the means for selectively directing the light include

means for selectively polarizing the light; and

means for selectively directing the light based on its polarization.

25. (New) The system of claim 1, wherein the means for selectively directing provides two or more different angles of illumination.

26. (New) The system of claim 1, wherein the means for selectively directing includes means for selectively reflecting based on polarization.

27. (New) The system of claim 1, wherein the means for selectively polarizing includes means for electronically driving a liquid-crystal device.

28. (New) The system of claim 1, wherein the means for selectively directing further includes means for blocking light of one polarization and refracting light of another polarization.

29. (New) A machine-vision system having an optical axis, comprising:

a light source emitting light having a polarization;

a machine-vision imager that obtains an image of an object illuminated by the light;

a processor coupled to receive an image from the imager, and operative to generate a quality parameter based on the image; and

a light director operatively controlled by the processor that selectively directs the light in a predetermined pattern based on its polarization and based on the quality parameter of the image.

30. (New) The system of claim 1, wherein the light director include a liquid-crystal device.

31. (New) The system of claim 1, wherein the light director further include a polarized reflector.